

REMARKS

Independent claims 1 and 11 stand rejected under § 102 on the basis of Kim (U.S. Patent No. 6,016,296), and independent claim 9 stands rejected under § 102 on the basis of Kuhn (U.S. Patent No. 5,715,157). Dependent claims 3-5, 8, and 13 stand rejected under § 103 on the basis of Kim in view of Kuhn. Applicants have amended claims 9 and 11, and traverse the rejection with respect to claim 1 for the following reasons.

With respect to claim 1, Applicants traverse because, at a minimum, Kim does not disclose (or suggest) a first and a second deceleration mode requiring a relatively large amount of power and a relatively small amount of power, respectively.

Kim provides a device for adjusting the reproduction speed of a CD-ROM drive in response to the system voltage level. When a system voltage supplied to the drive drops, a voltage level comparator compares the voltage supplied with a plurality of reference voltages and outputs the result of the comparison. A microcontroller receives the result and lowers the rotating speed of the motor in a plurality of increments depending on which range of reference voltages the supplied voltage falls within. Then, the microcontroller returns the rotating speed of the motor to its original speed when the voltage recovers.

The present invention relates to an information storage apparatus in which even when remaining power is low, an information recording medium can safely be taken out. Therefore, the present invention describes a technique to stop a motor when remaining power is low. In contrast, Kim relates to the information storing device in which different operation

speeds are selected so as to select a high speed or a lowered speed according to power supply, and to return the spindle motor to the original speed when the power is recovered. Kim does not disclose a technique to decelerate and stop the motor, but to temporarily decelerate the motor until the voltage has recovered. Further, Kim does not disclose an apparatus in which a determination of the mode for deceleration is made based on the power level, where the first mode requires more power than the second mode, as required by claim 1. Kim merely uses one mode of deceleration to lower the speed of the spindle motor in increments depending on the range of reference voltages the lowered voltage falls within. Accordingly, withdrawal of this rejection, and the rejections of the dependent claims, is respectfully requested.

Applicant amended claim 11 to recite “a brake for applying a brake force to said information recording medium to decelerate the rotation, wherein said signal controlling decelerator inputs the signal indicating the rotation speed lower than the rotation speed of said information recording medium to said driver to decelerate the rotation of the information recording medium, and subsequently operates said brake to further decelerate and stop the rotation of the information recording medium.” As stated above, Kim does not disclose a technique to decelerate and stop the motor, but to temporarily decelerate the motor until the voltage has recovered. Accordingly, withdrawal of this rejection, and the rejections of the dependent claims, is respectfully requested.

Claim 9 stands rejected under § 102 on the basis of Kuhn. Applicant amended claim 9 to recite, in part, “an intermittent braking decelerator for intermittently operating said brake to decelerate rotation of the information recording medium when a rotation speed of said medium exceeds a predetermined value.”

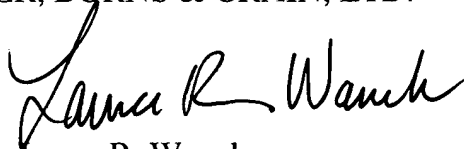
Kuhn discloses an apparatus for braking a spindle motor in a disc playback system that can be carried out using one or more braking pulses. The length and number of the braking pulses is determined by bit patterns stored in the ROM R1 which are based on results ascertained during test pulse braking. The comparison of the rotating speeds prior to and after a test braking impulse serve as a basis for determining the duration of the braking pulses. Kuhn does not intermittently decelerate the information recording medium when the actual rotational speed exceeds a predetermined rotational speed, as required by claim 9, but merely brakes according to a pattern stored in the ROM R1. Accordingly, withdrawal of this rejection, and the rejection of the dependent claim, is respectfully requested.

For the foregoing reasons, applicants believe that this case is in condition for allowance, which is respectfully requested. The examiner should call applicants' attorney if an interview would expedite prosecution.

Respectfully submitted,

GREER, BURNS & CRAIN, LTD.

By

A handwritten signature in black ink, appearing to read "Laura R. Wanek". The signature is fluid and cursive, with the first name "Laura" being more prominent.

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